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ICE FOG Q™

LOW FOG GENERATOR

User Manual

No.: MMT02 REV.:A/b

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MDG is a company globally recognized as the leader of the fog production industry.We design and manufacture the most reliable fog/haze generators since 1979 and, we continue to impress the entertainment and industrial market with unmatched innovations. Safe, non-toxic fog can be generated from a discreet haze to a sustained, overwhelming intensity.

Congratulations!
You are now in possession of a MDG Low Fog Generator.
The ICE FOG **Q™**

This Generator produces a very dry and dense low-lying fog using refrigerated liquid Carbon Dioxide (CO_2) as a coolant and propellant as well as the MDG Low Fog Fluid

We hope it will bring you long hours of satisfaction. This product is available in many versions to satisfy the needs of our professional users.

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY AND COMPLETELY BEFORE FILLING YOUR GENERATOR WITH FOG FLUID AND TURNING IT ON.

BASIC DESCRIPTIONS

The ICE FOG Q™ was designed with safety and reliability in mind. They are capable of generating pure white low fog for as long as you want (100% duty cycle) at full volume.

The ICE FOG Q™ is a variable output Low Fog Generator capable of generating large volumes of very dense low fog in a short period of time and also the most silent one on the market.

At the heart of the MDG Generators is an electronic assembly that keeps the heating module(s) at a very stable temperature, which integrates three types of fail-safe systems. Those three types of electronic fail-safe systems are designed to protect against over and under-heating conditions and, against component failure.

The temperature is maintained within a narrow margin (the HEAT yellow LED turns on & off from time to time to indicate the control of temperature) otherwise, an error condition will result and the Low Fog Generator will shut down. *When one of the safety systems is activated, the HEAT yellow LED will start blinking indicating the fail mode.* Shut down the main power switch, wait 3 to 4 minutes and retry the generator. If the fail mode still appears, unplug your generator and contact a MDG authorized service centre for verification.

When an under-heating condition occurs, the generator will stop producing fog until the temperature of the heating module is back within parameters.

LED Status:
FOG Green LED indicates that the generator is producing fog.
DELAY Yellow LED indicates that the delay is activated and won't produce fog until it is turned off.
FLUID VALVE Green LED indicates that the fluid solenoid valve is on and should turn on and off with the FOG LED.
CO_2 VALVE Green LED indicates that the liquid CO_2 solenoid valve is on.

Fog Output Delay:
Delay of 3 to 30 seconds. Allowing to cool down the cold chamber of the Generator.

Detacheable standard remote control
See picture below

Fog Output adjustment:
Pressure regulator & gauge
Maximum Operating pressure 4.14 bar (60 psi)

Main Power switch

Power Cord
208 or 230 VAC

Pressure Switch:
Upward position will pressurize the Fluid Reservoir.
Downward position will depressurize allowing to refill the Fluid reservoir.

Operating Pressure:
Refrigerated low pressure liquid CO_2 input
1500 kPa (225 psi) ± 10%

XLR-5 Remote Control Connector

Green LED indicates that the Generator is READY to operate

HEAT yellow LED indicator
1) The LED turns on and off from time to time to indicate the control of temperature.
2) The LED will start blinking indicating the FAIL mode.

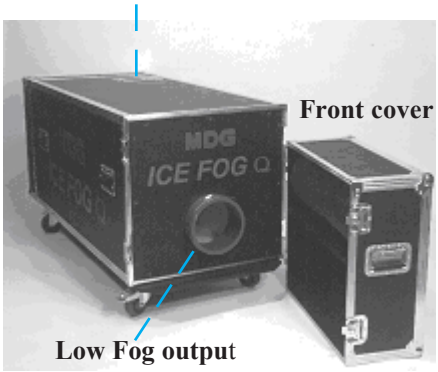
Fog switch with a Green LED indicator

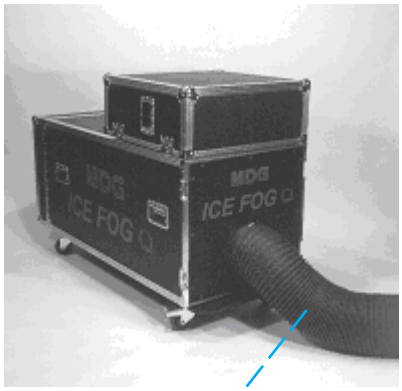
Power switch with the Red LED

Standard remote control MT35A-n

Standard Accessories

Fluid input:
2,5 - Liter reservoir
Use only MDG Low Fog Fluid





Output Fog Hose:
2.5 m (8') long / 23 cm (9") diameter
Different lengths available

Optional Accessories

DMX-M35AX
Optional 2 Channel DMX Interface

IF35-RCT
Optional Remote Control Timer

Refrigerated Low pressure Liquid CO_2 Container (Dewar)

SETTING UP

WARNING:

- When not in use ALWAYS switch off the power switch located on the back panel, or unplug the generator.
- Never install above people.
- This Fog Generator must be installed in an upright position on a stable and leveled surface.
- Use in a well ventilated area.

Maximum Operating Pressure: 414 kPa / 4.1 bar / 60 psi.

LIQUID & GAS REQUIREMENTS

WARNING – In the European Community the gas cylinder and regulator must be compliant with the Pressure Vessel Directive. In North America the gas cylinder must be manufactured, inspected and tested in accordance with U.S. Department of Transportation (DOT) 3AL and Transport Canada (TC) 3ALM requirements.

Attention: Only use low pressure refrigerated liquid Carbon Dioxide (CO_2) Dewar container. The recommended pressure should be 1500 kPa (225 psi) ± 10%.
Caution: To prevent liquid and or gas leaks and drop of pressure, ALWAYS use a neoprene washer when connecting the hose to the Dewar.

The CO_2 gas is used as a propellant when generating Fog. Output pressure can be adjusted by mean of the CO_2 gas regulator that you will find in the back panel of the generator.

FILLING OF THE FLUID RESERVOIR

WARNING – Use only MDG Low Fog Fluid. No doing so will damage the generator and will void the warranty.
CAUTION:

- DISCONNECT UNIT BEFORE ADDING FOG FLUID
- DEPRESSURIZE THE FLUID RESERVOIR BY TURNING OFF THE PRESSURE SWITCH LOCATED ON THE BACK PANEL OF THE GENERATOR

To fill the fluid reservoir, unscrew the brass closure and pour the MDG Low Fog Fluid until it reaches the inside bottom of the opening. Avoid overfilling, screw back the closure and make sure it is hand tightened.

OPERATING INSTRUCTIONS

The MDG Low Fog Generators are quite easy to operate and require no preventive maintenance. They are supplied with a removeable remote control. A DMX Interface can be purchased as an option.

When the MAIN POWER 230 or 208 VAC and the MAIN POWER SWITCH is applied, the generator is placed in stand-by mode. When in stand-by mode, most of the electronic controls are off (except for the three types of fail-safe systems), waiting for the ON switch on the remote control to be activated.

When the ON switch is pressed, the red LED indicating that the unit is working will lit, as well as the yellow LED called HEAT, indicating the start of the heating cycle which will last approximately 10 minutes. When the temperature reaches a pre-adjusted level called the READY level (indicated by a green LED), the HEAT yellow LED will turn off.

The generator is ready to produce fog. Adjusting the working pressure of the CO_2 gas regulator can control the amount of the fog emission.

When an overheating condition is detected, or if the internal temperature reaches 60°C (140°F), a safety circuit is triggered. This circuit removes the power to the heating elements, preventing hazardous conditions

The FOG ON signal (green LED) can be applied to produce low fog for as long as the ready level is reached and all other control parameters are within specifications.

The 100% Duty cycle is continuous with specified line voltage, and will degrade with line voltage loss. If that is the case, reducing maximum operating pressure can compensate it.

SHUT DOWN PROCEDURES

A Generator must never be shut down while making Fog. To power off a Generator the following sequence must be observed:

- Always turn off the fog emission.
- Power off the Fog Generator (by switching off the “MAIN POWER SWITCH” or by removing the MAIN POWER.
- If not use for a long period:
  Always depressurised the fluid reservoir using the pressure switch found at the back of the unit. (See picture on page 3)
- Close the liquid refrigerated CO_2 valve input of the dewar.

Warranty

When installed and operated as recommended, MDG Fog Generators Ltd. Guarantees that this product will remain free of defects in parts and labor for a period of two (2) years from the moment it is delivered. This warranty does not apply if the product has been modified without our written authorization, or repaired without a written authorization from MDG or one of is authorized service center, or if it is used under conditions for which it has not been designed, or if a none MDG Fog Fluid specified has been used. MDG Fog Generators Ltd is not responsible for any damages resulting from a faulty installation or from abusive use of the product.
If any device is found unsatisfactory under the terms of this warranty, MDG Fog Generators Ltd will repair or replace it free of all charges except transportation costs.

This warranty applies only to the product itself and MDG Fog Generators Ltd declines responsibility for any losses, costs, or damages resulting from its use.

MDG Fog Generators Ltd shall not be liable for consequential damage in case of any failure to meet the conditions of any warranty or shipping schedule, nor will claims for labor, loss of profits, repairs, or other expenses incidental to replacement be allowed.

Declaration of Conformity

the manufacturer:

MDG Fog Generators Ltd
5639 Christophe-Colomb
Montreal, QC, Canada, H2S 2E8

Acknowledge is sole responsibility, that the product(s):

Kind of equipment: Fog Generators

Type designation:
MAX 3000^{APS}
MAX 5000^{APS}
MAX 5000^{APS} Touring
ATMOSPHERE^{APS}
ATMOSPHERE^{APS} Touring
Micro Max
Mini Max
Mega Max
ICE FOG Generator / Compack
ICE FOG Touring / Q

Conform(s) to the following EEC directives:

- Low Voltage Directive 73/23/EEC dated Feb-19 1973
modified by the directive : 93/68/EEC dated Jul-22 1993

- EMC Directive 89/336/EEC Article 10.1 dated May-03 1989

are in compliance with the following norm(s) or document(s):

Safety / Low Voltage: **EN60335-1 : 1994**
A1 : 1994 and **A11 : 1995** and **A12 : 1996**

EMC: **EN55014-1 : 1993** and **EN55014-2 : 1997**
EN61000-2 : 1995 and **EN61000-3 : 1995**

Martin Michaud, Director
Montreal, Canada, 25 May 1999

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